IN THE CLAIMS

Claims 1-3 (Cancelled).

4. (Currently Amended) A semiconductor device [with p-channel and n-channel field effect devices formed on a common substrate,] comprising:

a silicon substrate with p-channel and n-channel field effect regions [corresponding to said p-channel and n-channel field effect devices, respectively],

wherein said n-channel field effect region [having] has a silicon-germanium buffer layer on said substrate, a silicon-germanium compound relax layer on said buffer layer, and a silicon epitaxial layer formed on said silicon germanium compound relax layer, and

[a concentration of germanium in said buffer layer being graduated so that it increases proceeding from a substrate side of said buffer layer to a relax layer side of said buffer layer,

a concentration of germanium in said relax layer being substantially the same as the concentration of germanium at said relax layer side of said buffer layer,]

wherein said p-channel field effect region [having] has a silicon-germanium compound layer formed on and in direct contact with said substrate and a silicon epitaxial cap layer formed on said silicon-germanium compound layer.[,

drain and source regions of said n-channel field effect device being within said silicon epitaxial layer formed on said relax layer, and

drain and source regions of said p-channel field effect device being within said silicon-germanium compound layer formed on said substrate and said silicon epitaxial cap layer formed on said silicon-germanium compound layer.]

5. (Previously Added) The semiconductor device of claim 4 wherein, a ratio of germanium to silicon in said buffer layer increase from 0.0 to less than about 0.5 proceeding from said substrate side to said relax layer side of said buffer layer.

6. (Previously Added) The semiconductor device of claim 5 wherein, the ratio of germanium to silicon in said buffer layer is not greater than about 0.3.

7. (Previously Added) The semiconductor device of claim 4 wherein said buffer layer is about 1.68 micrometers thick and said relax layer is about 0.6 micrometers thick.

8. (Previously Added) The semiconductor device of claim 7 wherein said silicon-germanium compound layer in said p-channel field effect region has a thickness of about 100 nanometers.

9. (Previously Added) The semiconductor device of claim 4 wherein said silicon-germanium compound layer has a ratio of germanium to silicon of about 0.1 to less than about 0.8.

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10. (Previously Added) The semiconductor device of claim 9 wherein said ratio is about 0.2.

11. (Previously Amended) The semiconductor device of claim 4 wherein said second silicon epitaxial layer has a thickness of 100 nanometers.

12. (Canceled).

13. (Currently Amended) The semiconductor device of claim 4, wherein in cross section said silicon germanium compound layer and said silicon epitaxial cap layer in said p-channel field effect region [silicon germanium layer and said second silicon epitaxial layer] occupy substantially the same vertical spacing and position as said [n-channel first] silicon epitaxial layer in said n-channel field effect region.

14. (New) A semiconductor device comprising:

a silicon substrate with p-channel and n-channel field effect regions,

wherein said n-channel field effect region has a silicon-germanium buffer layer on said substrate, a silicon-germanium compound relax layer on said buffer layer, and a silicon epitaxial layer formed on said silicon germanium compound relax layer,

wherein said p-channel field effect region has a silicon-germanium compound layer formed on said substrate and a silicon epitaxial cap layer formed on said silicon-germanium compound layer, and

wherein said n-channel field effect region has drain and source regions formed in said silicon epitaxial layer on said relax layer and not in said relax layer.

15. (New) The semiconductor device of claim 14 wherein, a ratio of germanium to silicon in said buffer layer increase from 0.0 to less than about 0.5 proceeding from said substrate side to said relax layer side of said buffer layer.

16. (New) The semiconductor device of claim 14 wherein said silicon-germanium compound layer is in direct contact with a first layer and said silicon-germanium compound relax layer is in direct contact with a second layer, wherein said first and second layers do not comprise the same materials.

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17. (New) A semiconductor device comprising:

a silicon substrate with p-channel and n-channel field effect regions,

wherein said n-channel field effect region has a silicon-germanium buffer layer on said substrate, a silicon-germanium compound relax layer on said buffer layer, and a silicon epitaxial layer formed on said silicon germanium compound relax layer,

wherein said p-channel field effect region has a silicon-germanium compound layer formed on said substrate and a silicon epitaxial cap layer formed on said silicon-germanium compound layer, and

wherein said silicon-germanium compound layer is in direct contact with a first layer and said silicon-germanium compound relax layer is in direct contact with a second layer, wherein said first and second layers comprise a different material.

18. (New) The semiconductor device of claim 17 wherein the first layer is the substrate.

19. (New) The semiconductor device of claim 17 wherein the second layer is the silicon-germanium buffer layer.

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20. (New) The semiconductor device of claim 17 wherein, a ratio of germanium to silicon in said buffer layer increase from 0.0 to less than about 0.5 proceeding from said substrate side to said relax layer side of said buffer layer.